

1 **A SYSTEM AND METHOD FOR E-MAIL INVOKED**
2 **ELECTRONIC COMMERCE USING A WALLET**

3 Inventors: Brian Boesch

4 Field of the invention

5 This invention relates generally to a method and system where certain information pertaining
6 to a consumer is stored on a server and is provided to a third party at the request of the consumer.
7 More particularly, the present invention relates to a method and system where certain consumer
8 information is stored on a server and is provided to a merchant thereby allowing the consumer to use
9 an electronic payment system to purchase a product or service over a network in an easy and safe
10 manner.

11 Background of the Invention

12 With the emergence of the Internet, consumers and merchants are using the Internet to engage
13 in electronic commerce. To purchase products over the Internet, consumers typically prefer to use
14 electronic payment services. Such services offer a variety of features, including security, privacy,
15 anonymity, and access to transaction histories. The basic model for such services requires a
16 communication link between a consumer's computer and a merchant's computer, and a link between
17 the merchant's computer and a payment server. To use such a payment service, consumers are
18 required to install large amounts of software (commonly called "wallets") onto their computer for
19 the purpose of storing an electronic representation of money or for identifying sources of payments.
20 An example of electronic payment services include such services as SET Specification, HP,
21 CyberCash, IBM, OTP, etc).

22 If a consumer installs the software for a wallet onto the consumer's computer, the consumer
23 typically has to update the wallet software to correct bugs, to add features, or to improve service

1 performance. Further, the wallet software is accessible only on the computer on which the wallet
2 software is installed. As a result, the consumer must install a copy of the wallet software onto each
3 computer from which the consumer desires to access the payment service.

4 Once the wallet from a payment service is installed, the consumer may be limited as to where
5 the consumer can shop because of the proprietary nature of the electronic payment service business.
6 Typically a consumer can only purchase a product or service from a merchant who accepts payments
7 from the same payment service. As a result, merchants may opt to use a plethora of payment
8 services thereby raising costs and requiring merchants to manage a variety of software programs.

9 Present payment services require consumers to go through a large number of steps to complete
10 a transaction. Research has shown that the more steps a consumer is required to take to complete
11 a transaction, the more likely that the consumer will terminate the purchase process prior to
12 completing the purchase. Experience has also shown that, as impressive as wallets may be from a
13 theoretical perspective, consumers don't like them and don't use them. As a consequence,
14 transactions are performed over the Internet in non-secure environments or in inefficient manners,
15 or both.

16 In order to avoid such problems, some inventions have created new types of systems. One such
17 system requires consumers to use a payment server which sends an access message to a merchant
18 thereby causing the desired product to be sent to the consumer. The access messages include such
19 information as a product identifier and a message authenticator. The message identifier is necessary
20 to identify which product is to be sent and the message authenticator is necessary to ensure that the
21 access message is legitimate. Once the payment server authorizes the transaction, an access
22 message is sent to the merchant. However, these type of systems go against the current mode of
23 operation where merchants determine the authorization of a transaction. Merchants typically want

1 to control the authorization of a transaction in the same manner as they are accustomed to. Presently,
2 if a consumer purchases an item at a store, the merchant controls the authorization of the transaction.

3 Therefore, a need exists for a system that allows a consumer to send payment information to a
4 merchant's computer over the Internet in a manner that offers security, allows access from any
5 computer that has access to the Internet, delivers payment information to a merchant's computer
6 regardless of the payment system that the merchant uses to process transactions, allows system
7 upgrades without dependency on the consumers, and allows a consumer to register with a consumer
8 information server in advance of a decision to purchase.

9 Summary of the Invention

10 It is therefore an object of the present invention to reduce the number of steps a consumer is
11 required to perform in order to purchase a product over any network.

12 A further object of the present invention is to reduce the number of steps a consumer is required
13 to perform in order to purchase a product over the Internet.

14 A further object of the present invention is to eliminate the need for consumers to leave a
15 merchant's site to acquire an electronic form of payment.

16 A further object of the present invention is to eliminate wallet software which is permanently
17 stored on the consumer's computers.

18 A further object of the present invention is to create a consumer information server for storing
19 wallet software, that can be accessed easily and transparently by a consumer.

20 A further object of the present invention is to allow a system administrator of a consumer
21 information server to upgrade the software on such server at any time.

22 A further object of the present invention is to allow flexibility in providing new or modified
23 services to the consumers via upgrades to software stored on a consumer information server.

1 A further object of the present invention is to reduce the number of payment parameters
2 consumers are required to fill in when purchasing products over a network.

3 A further object of the present invention is to allow a consumer to conduct transactions using
4 data stored on a consumer information server from any computer connected to the network on which
5 the consumer information server resides.

6 A further object of the present invention is to allow consumer information to be provided to
7 merchants using payment systems from various service providers.

8 A further object of the present invention is to use the architecture of a consumer information
9 server to aid the consumer in distributing all manner of information, not just purchase/money
10 information, to a variety of recipients when those recipients are to receive essentially the same
11 information from one recipient to the next.

12 A further object of the present invention is to provide a mechanism for direct marketing to
13 consumer wallet holders immediately before, during, or after completion of a transaction using a
14 wallet.

15 A further object of the present invention is to permit a person to pre register with a consumer
16 information server by providing information to the consumer information server in advance of the
17 need for that information.

18 A further object of the present invention is to allow a consumer to register with a consumer
19 information server in advance of a decision to purchase a product without having to go through the
20 registration process during the purchasing process..

21 A further object of the present invention is to allow a consumer information server or merchant
22 to send an email message to a consumer, wherein the email message contains the proper links to the
23 consumer information server to allow a consumer to purchase a product, and if necessary, register

1 with the consumer information server prior to purchasing a product.

2 A further object of the present invention is to allow a consumer to access a consumer
3 information server to amend the consumer's stored information.

4 The present invention is a system for presenting a consumer's purchasing information to a
5 merchant's computer to allow a sale of goods or services to be consummated. The system comprises
6 a computer associated with a consumer (the "consumer's computer"), a computer associated with
7 a merchant (the "merchant's computer") and a server (the "consumer information server" or "CIS")
8 on which the necessary and desirable information about the consumer is stored. The consumer's
9 computer, the merchant's computer, and the CIS are connected to a network, such as the Internet,
10 and communicate using communication protocols. The consumer's computer operates Web browser
11 software (the "consumer's browser"). The merchant's computer operates as a web server, provides
12 transaction processing, and performs other functions. The merchant's computer may be a single
13 device, or may, at the merchant's discretion comprise a number devices which may or may not be
14 co-located. The merchant's computer also operates software ("client software") that communicates
15 with the CIS. The CIS operates CIS software which provides access to information stored in various
16 databases, logs, and/or datastructures.

17 The present invention allows consumers to purchase products over a network and allows
18 merchants to receive payment information relating to that purchase. During the shopping process,
19 a consumer browses a merchant's Web site. The merchant's Web site includes goods and/or services
20 (herein, "item") for sale. The merchant's Web site also operates client software. When the
21 consumer requests a merchant's offer, the client software sends a browser readable file and the
22 merchant's offer to the consumer's browser on the consumer's computer. The merchant's offer
23 comprises in part a transaction number which is not representative of the product code or description.

1 The browser readable file includes an address to the merchant's Web page and instructions that
2 instruct the consumer's browser to communicate with the CIS software. The merchant's offer
3 passes through the consumer's computer to the CIS software.

4 The CIS software returns a message to the consumer's browser and instructs the consumer's
5 browser to display a graphic within an area reserved for the wallet within the merchant's Web page.
6 The content of this graphic depends on whether or not the consumer is known to the CIS software.

7 If the consumer is known to the CIS software, the CIS software takes information contained in
8 the merchant's offer, formats the information to allow the consumer's browser to display the
9 merchant's offer, and sends the merchant's offer to the consumer's computer where the merchant's
10 offer is displayed by the consumer's browser within the area reserved for the wallet within the
11 merchant's Web page. The consumer is prompted to decide whether or not to purchase the item.
12 Typically, this communication occurs by the consumer clicking on an object resulting in a message
13 being communicated to the CIS.

14 If the consumer elects to purchase the item, the CIS software forwards information to the
15 merchant's computer. The information includes information from the merchant's offer and the
16 consumer's personal information (e.g., credit card number, address, shipping address) which is
17 stored on the CIS. The merchant's computer then uses the information to complete the transaction.

18 If the consumer is unknown to the CIS software, the CIS software sends a form to the
19 consumer's computer which is displayed within the area reserved for the wallet within the
20 merchant's Web page. The form prompts the consumer to provide the purchasing information to
21 complete the transaction. Once the consumer provides sufficient information to complete the
22 transaction, the CIS software prompts the consumer to purchase the item. If the consumer elects to
23 purchase the item, then the consumer is prompted to elect to have the information retained on the

1 CIS for future use (the process herein referred to as "registration"). If the consumer answers "no",
2 then the information is stored in a temporary data structure. Information stored in the temporary data
3 structure is retained for a set amount of time and is not available for reuse by the consumer. If the
4 consumer answers "yes", then the information pertaining to the consumer is stored in a data structure
5 intended for the retention and future use by the consumer.

6 In an alternative embodiment for consumers who are unknown to the CIS software, merchants
7 can elect to use a merchant's own form instead of the form provided by the CIS software. The
8 merchant's web server software displays the merchant's form which prompts the consumer to
9 provide the purchasing information to complete the transaction. In the preferred embodiment, the
10 consumer is provided the option of registering with the CIS. If the consumer elects to register with
11 the CIS, then the consumer is connected with the CIS thereby allowing the consumer to register with
12 the CIS. The connection to the CIS can be done in any manner known in the art. For example, in
13 one embodiment the merchant's web server software sends the proper links to connect the
14 consumer's browser with the CIS to allow the consumer to register with the CIS. In another
15 embodiment, the merchant's web server software sends an email message to the consumer wherein
16 the email message contains the proper links to the CIS thereby allowing the consumer to register
17 with the CIS.

18 In the preferred embodiment, the merchant's web server software also sends the consumer's
19 information to the consumer wherein the consumer browser forwards the consumer's information
20 to the CIS. If the consumer's information is forwarded to the CIS, then the CIS software saves the
21 consumer's information in the consumer data structure and the consumer registers with the CIS.
22 If the consumer's information is not forwarded to the CIS, then the consumer follows registers with
23 the CIS using a pre-registration process.

1 In addition, if there is a problem with the form provided by the CIS, then the merchant's form
2 can be used as a default, thus providing greater assurance that a transaction will not be lost because
3 of a single point of failure.

4 If the consumer elects to register with the CIS software, during the registration process, the
5 consumer's browser is sent a browser identifier. In the preferred embodiment, the browser identifier
6 is a cookie. The browser identifier contains data which is cryptographically protected to enhance
7 security. The browser identifier allows the CIS software to identify the consumer's browser and
8 permits a customer to authenticate himself or herself, thereby permitting the CIS software to use the
9 consumer's stored information in future transactions.

10 The system also allows consumers who are registered on a different browser to authorize the
11 CIS software to use the consumer's stored information. This situation occurs when the CIS software
12 cannot identify the browser identifier because there is no browser identifier in the consumer's
13 browser or the browser identifier cannot be used to identify the particular consumer using the
14 consumer's browser.

15 Since the system establishes communication links between the merchant's computer and the
16 CIS, the system can be optimized in several respects. For example, the price of an item may be
17 affected by the location to which the item is to be shipped, the method of shipping, and by tax
18 obligations. The CIS software communicates information pertaining to the consumer to the
19 merchant's computer permitting the merchant's computer to determine a "final" price based on the
20 consumer's information, i.e., shipping address and/or preferences.

21 Another example of optimization is the ability of the CIS software to present a merchant's brand
22 or other "brand" to the consumer's browser. The CIS software can also associate a consumer with
23 an identification code that can be presented to the merchant's computer, thus allowing the merchant

1 to "recognize" a consumer and provide customer-specific messages, displays, and offers. The CIS
2 software can tailor its communication with the consumer's computer in accordance with a profile
3 created by the CIS software. The profile is based upon preferences chosen by the consumer or
4 created by the CIS software based on the consumer's behavior, from preferences chosen by the
5 merchant, by a branding party, or the like.

6 With respect to consumers, the system is optimized to provide all of the purchasing information
7 to the consumer thereby allowing the consumer to verify the information and make a purchase
8 decision without further purchasing information input from the consumer. The system can also
9 establish a dialogue between the consumer's computer and the CIS to permit the consumer to select
10 from options such as which credit card to use, the shipping address, and the shipping means.

11 In an alternate embodiment, a consumer can register with the consumer information server prior
12 to purchasing a product or provide information to the consumer information server in advance of
13 need. In one embodiment, the consumer can access the CIS to register with the CIS prior to
14 purchasing a product. In yet another embodiment, the CIS or merchant sends an email message to
15 a consumer wherein the email message contains the proper links to the CIS to allow the consumer
16 to register with the CIS prior to purchasing a product.

17 In another embodiment, the email message from the merchant comprises a merchant's offer and
18 the proper links to the merchant's Web page where the sale item is described. In the preferred
19 embodiment, the link to the merchant's web page is executed when the email message is opened.
20 In an alternate embodiment, in order to execute the link to the merchant's web page, the consumer
21 must make the connection as known in the art. Once the link to the merchant's web page is
22 executed, the purchase and/or registration process proceeds as previously described.

23 In yet another embodiment, a known (registered) consumer can access the consumer information

1 server to amend the consumer's stored information.

2 By allowing a consumer to register or amend the consumer's stored information, the consumer
3 is able to purchase a product without having to go through the registration process during the
4 purchasing process. For example, if a consumer registers with the CIS prior to purchasing a product,
5 then when the consumer goes to a merchant's Web page to purchase a product, the CIS will complete
6 all of the known consumer's purchasing parameters. As a result, the consumer will only have to
7 enter his or her passphrase to complete the transaction.

8 Brief Description of the Drawings

9 Figure 1 illustrates the elements of the present invention.

10 Figure 2A illustrates the process of purchasing an item over a network.

11 Figure 2B illustrates the process of purchasing an item over a network (continued).

12 Figure 2C illustrates the process of purchasing an item over a network (continued).

13 Figure 2D illustrates the process of purchasing an item over a network (continued).

14 Figure 2E illustrates the process of a merchant using a merchant's form for gathering purchasing
15 information (continued).

16 Figure 3 illustrates the process of a consumer registering with the consumer information server.

17 Figure 4 illustrates the process of a consumer amending his or her consumer information.

18 Detailed Description of the Invention

19 For the purpose of this application, the term software is deemed to include instructions.

20 Referring to **Figure 1**, the elements of the present invention are illustrated. The present
21 invention allows consumer **100** to purchase a product or service (hereinafter an "item") over network
22 **160** and allows merchant **104** to receive payment information relating to the transaction.

23 To purchase an item, consumer **100** uses consumer computer **102**. Consumer computer **102**

operates consumer's Web browser (the "consumer's browser") **104**. Consumer's browser **104** allows consumer **100** to download and display Web pages.

To receive payment information relating to the purchase, merchant **120** uses merchant computer **122**. Merchant computer **122** operates Web server software **124** and client software **126**. Web server software **124** displays a merchant's Web pages. Client software **126** allows merchant **104** to communicate with the Consumer Information Server (the "CIS") **140**.

In the preferred embodiment, CIS **140** comprises CIS software **142** which gathers and stores the purchasing information to complete a purchasing transaction over common network **160**, temporary data structure **144** which stores consumer information for a limited amount of time and cannot be used in future transactions, consumer data structure **146** which stores consumer information which can be used in future transactions, merchant data structure **148** which stores information pertaining to different merchants, consumer transaction log **150** which stores information pertaining to the transactions for registered consumers, and merchant transaction log **152** which stores information pertaining to transactions for registered and non-registered consumers.

Consumer computer **102**, merchant computer **122**, and CIS **140** are connected to common network **160**. The present invention can operate over various types of common networks both wired and wireless. The present invention can operate over the Internet, intranet, LANS, and WANS however this list should not be construed as a limitation. In the preferred embodiment, the common network is the Internet.

CIS software **142** gathers and stores the purchasing information to complete a purchasing transaction over common network **160**. CIS software **142** gathers the purchasing information directly from consumer **100**, from consumer data structure **146** or from both. If consumer **100** has

1 not previously registered with CIS software **142**, consumer **100** is treated as a non-registered
2 consumer. For non-registered consumers, CIS software **142** gathers the purchasing information by
3 prompting consumer **100** for the information. If consumer **100** is a registered consumer, i.e., a
4 consumer who previously registered with CIS software **142**, then CIS software **142** gathers the
5 purchasing information from consumer data structure **146**. If additional purchasing information is
6 needed, CIS software **142** prompts consumer **100** for the information.

7 Temporary data structure **144** stores label-value pairs relating to a particular interaction between
8 consumer **100** and merchant **120**. If consumer **100** is not known to CIS software **142** (discussed
9 below), consumer **100** is prompted for purchasing information to complete the transaction. The
10 purchasing information can include the customer's name, billing address, shipping address, and
11 credit card number, however this information should not be construed as a limitation. In the
12 preferred embodiment, the purchasing information is stored in temporary data structure **144** which
13 is located at CIS **140**. In alternative embodiments, the purchasing information can be stored on a
14 dedicated server or a shared server.

15 If consumer **100** declines to have purchasing information stored at CIS **140**, the purchasing
16 information remains in temporary data structure **144** for a set period of time. The purchasing
17 information in temporary data structure **144** is not available to consumer **100** for future transactions.
18 If consumer **100** elects to have purchasing information stored at CIS **140**, the purchasing information
19 in temporary data structure **144** will be saved for subsequent use in consumer data structure **146**.

20 Consumer data structure **146** stores label-value pairs relating to consumers, including consumer
21 **100**, that have completed the registration process with the operator of CIS **140**. The label-value pairs
22 in consumer data structure **146** represent information that is necessary, and may include information

1 that is useful to complete a transaction. The purchasing information can include the customer's
2 name, billing address, shipping address, and credit card number, however this information should
3 not be construed as a limitation. The useful information can also include email, telephone numbers,
4 facsimile numbers, and user preference data (regarding shipping address, shipping method, and
5 related data), however this information should not be construed as a limitation.

6 Merchant data structure **148** stores label-value pairs relating to merchants, including merchant
7 **120**, that have completed the registration process with the operator of CIS **140**. The label-value pairs
8 in merchant data structure **148** represent information that is necessary to identify merchant **120** and
9 merchant computer **122**. This information includes contact information, merchant identification
10 number, network location(s) for the merchant computer **122**, payment card type, accepted currencies,
11 and payment methods (e.g., electronic check, micropayments), however this information should not
12 be construed as a limitation.

13 Consumer transaction log **150** stores label-value pairs relating to transactions performed by
14 registered consumers. Merchant transaction log **152** stores label-value pairs relating to transactions
15 performed by registered and non-registered consumers, including consumer **100**. The operator of
16 CIS software **142** can allow consumers and merchants access to the information contained in their
17 respective data structures as deemed necessary. For instance, consumer **100** can be given a summary
18 of the consumer's transactions over a period of time. Merchant **120** can be given a summary of the
19 merchant's transactions over a period of time.

20 Referring to **Figures 2A**, the process of purchasing an item over a network is illustrated. The
21 following process is the preferred embodiment of the present invention, in alternate embodiments,
22 similar processes can occur in different orders. In the preferred embodiment, the process starts with
23 a consumer requesting a merchant's offer **200** from a merchant. In response to the consumer's

1 request, the merchant's computer responds by sending a browser readable file and the merchant's
2 offer to the consumer's computer **202**. The consumer's browser processes the browser readable file
3 and sends the merchant's offer and a message to the CIS **204**.

4 The merchant's offer includes the following information, however this information should not
5 be considered a limitation: merchant identifier, price of the item, a form of digital signature of the
6 merchant, a final price indicator, and a transaction number. The merchant identifier identifies the
7 merchant who is offering the item for sale. The price of the item is cost to purchase the item. A
8 digital signature of the merchant is used to ensure the validity of the offer. The final price indicator
9 is used to indicate whether the final cost for the item is affected by the consumer's shipping address
10 and/or shipping preference. The transaction number is used for tracking purposes. The transaction
11 number does not contain any product identifying information. The transaction number acts as an
12 identifier for identifying a transaction.

13 The message sent from the consumer's browser to the CIS indicates whether the browser
14 contains a browser identifier. In the preferred embodiment, the browser identifier is a cookie. A
15 browser identifier identifies the consumer browser on a specific consumer computer. The CIS
16 software receives and processes the message to determine if the consumer's browser contains an
17 identifier which identifies a consumer that matches a data entry in a file in the consumer data
18 structure of the CIS **206**. The CIS software determines whether a single user or multiple users have
19 used the consumer's browser **208** by checking the consumer data structure. If the CIS software
20 identifies only one user, then the CIS software accesses and gathers the consumer's information for
21 the identified user which is stored in the consumer data structure (CDS) **214**. If the CIS software
22 identifies more than one user, the CIS software will select a user based on a selection criteria
23 generated by the operator of the CIS. If the user selected by the CIS software is not the current user

1 and the current user objects, then the consumer is asked for identification **210**. If the current user
2 does not object, as described below, the current user cannot complete a transaction unless the current
3 user enters the proper passphrase which belongs to the selected user. This process requires the CIS
4 software to send a message to the consumer's computer prompting the consumer to provide
5 information to identify the consumer. In the preferred embodiment, the CIS software prompts the
6 consumer for the consumer's identification number, email address, and a passphrase. The
7 consumer's identification number, email address, and passphrase are used to authenticate the
8 consumer. These entries were provided by the consumer during the registration process which is
9 discussed below. In alternate embodiments, the consumer can be prompted for different information
10 to identify the consumer.

11
12 The consumer's response is sent back to the CIS where the CIS software then determines if the
13 consumer is known to the CIS software **212**. A known or registered consumer is a consumer who
14 has previously registered with the CIS software and whose information matches information supplied
15 by the consumer during a prior registration. If the CIS software determines that the information
16 provided by the consumer is insufficient to identify the consumer, then the CIS software prompts the
17 consumer for the same information again **210**. The operator of the CIS can set the number of
18 iterations that the consumer is prompted for the consumer's identity. If the consumer's response
19 matches the information the consumer supplied during registration, then the CIS software accesses
20 and gathers the consumer's information which is stored in the consumer data structure (CDS) **214**.

21 In an alternative embodiment, the system can include a plurality of CISs. In such a system, the
22 consumer would be registered on one of the CISs. If the CIS software determines that the
23 information provided by the consumer does not match the information on the CIS the consumer is
connected to, then the CIS software will communicate with the other CISs to identify the consumer

1 and obtain the consumer's information. In the preferred embodiment, the CISs are linked together
2 via the network and are able to search one another for information in the event that a request to one
3 CIS does not yield the requested information.

4 Referring to **Figure 2B**, if the consumer's browser does not contain a browser identifier or if
5 the information the consumer provided does not properly identify the consumer, i.e., the consumer
6 is not found in a file in the consumer data structure of the CIS, the CIS software prompts the
7 consumer for the purchasing information **216**. This is accomplished by the CIS software sending
8 a form to the consumer's browser. In an alternative embodiment, the consumer is prompted for the
9 purchasing information using a plurality of forms. The form or forms prompts the consumer to
10 provide the purchasing information to complete the transaction. The purchasing information includes
11 the consumer's name, address, shipping address, and credit card number, however this list should
12 not be construed as a limitation. In the preferred embodiment, the consumer has the option of
13 indicating that the consumer is a registered consumer.

14 The consumer's response or responses are sent to the CIS **218**. The CIS software then
15 determines if the consumer claims to be a registered consumer **220**. If the consumer claims to be a
16 registered consumer, then the CIS software prompts the consumer for proof **222**. In the preferred
17 embodiment, this is accomplished by the CIS software prompting the consumer for the consumer's
18 identification number, email address, and a passphrase. The consumer's identification number,
19 email address, and passphrase are used to authenticate the consumer. These entries were provided
20 by the consumer during the registration process which is discussed below. In alternate embodiments,
21 the consumer can be prompted for different information to identify the consumer.

22 The consumer's response for proof is sent back to the CIS where the CIS software then
23 determines if the consumer is a registered consumer **224**. Again, a registered consumer is a

1 consumer who has previously registered with the CIS software and whose information supplied by
2 the consumer matches information supplied by the consumer during a prior registration.

3 If the CIS software determines that the information provided by the consumer matches the
4 information the consumer supplied during registration, then the CIS software accesses and gathers
5 the consumer's information which is stored in the consumer data structure (CDS) **214**.

6 If the CIS software determines that the information provided by the consumer is insufficient to
7 identify the consumer, then the CIS software prompts the consumer for the purchasing information
8 to complete the transaction **216**.

9 If the consumer does not claim to be registered then the CIS software acquires the consumer's
10 data from the forms **226**. In addition, the consumer's response can be sent to the merchant to
11 determine whether the item can be sold to that consumer. For instance, a consumer in one state may
12 not be able to purchase a firearm if the law governing the consumer or merchant does not permit
13 such a transaction. In yet another embodiment, the consumer response to one question can lead to
14 another question which requires another form. For instance, if the consumer requests overnight
15 shipping, the CIS software can prompt the consumer to select the overnight shipping service.

16 The CIS software stores the data in a temporary data structure **228**. The data is evaluated to
17 determine if the consumer elected to register with the CIS **230**. If the consumer elects to become a
18 registered consumer, then the CIS software sets the flag **232**. If the consumer does not elect to
19 become a registered consumer then the flag is not set. Registration allows the CIS software to access
20 the consumer's information which was previously stored in the consumer data structure. The
21 information acquired from the forms is evaluated to determine if the information from the consumer
22 is sufficient to complete the purchase transaction **234**. This step includes the CIS software accessing
23 the merchant data structure using the merchant identifier to ensure that the consumer's purchasing

1 information is in proper order, i.e., to check that the consumer's credit card accepted by the
2 merchant. If the information is not sufficient, the consumer is prompted for the information again
3 **216.** The operator of the CIS can set the number of iterations that the consumer is prompted for the
4 information.

5 Referring to **Figure 2C**, once the CIS software determines that the consumer's information is
6 sufficient to complete the purchase transaction, the CIS software reads the final price indicator in
7 the merchant's offer to determine if the price needs to be adjusted due to the consumer's shipping
8 address and/or shipping preference **236**. If the price is affected by the consumer's shipping address
9 and/or shipping preference, then the CIS software communicates the required information to the
10 merchant to calculate a new price based on the consumer's shipping address **238**. In the preferred
11 embodiment, the CIS software only sends the city, state, country, and mail code information to the
12 merchant's computer. This information is limited to permit the revised price calculation without
13 having to disclose personal information relating to the consumer.

14 In alternate embodiments, the consumer's address can be the consumer's email address or a
15 facsimile number.

16 Once the merchant responds with the revised price or if the price was not affected, the CIS
17 software presents the merchant's offer to the consumer **240**. The merchant's offer is displayed to
18 the consumer in the area reserved for the wallet. The CIS software then determines if the consumer
19 needs to enter a passphrase. If the consumer is a registered consumer who has not gone through the
20 authentication process yet, then the consumer is required to enter the proper passphrase for the
21 consumer identified with the browser identifier (cookie) **242**. The offer is then augmented with a
22 prompt for the user to enter the consumer's passphrase **244**. The CIS software evaluates the entered
23 passphrase against data held in the consumer data structure **246** to determine if the consumer is

1 known (registered) by the CIS software. If the passphrase does not match, then the consumer is
2 prompted for the correct passphrase **244**. The operator of the CIS can set the number of iterations
3 that the consumer is prompted for a correct passphrase to avoid multiple fraudulent attempts to
4 access information.

5 Once the consumer enters a correct passphrase or if there was no browser identifier for the
6 consumer, the consumer is presented with a buy decision **248**. The consumer has several options
7 available at this step: the consumer can elect to buy the item, change the consumer's information and
8 buy the item, or cancel the transaction. If the consumer elects to change the consumer's information,
9 the consumer must still decide to either buy the item or cancel the transaction after changing the
10 information. If the consumer declines to purchase the item, then the transaction is canceled, then the
11 information held in the temporary data structure is deleted, the dialogue ends and the transaction is
12 terminated **250**.

13 The consumer also has the option of changing the consumer's information. The consumer may
14 wish to change such information for such reasons as the consumer does not agree with the selection
15 by the CIS software or the information contains an error. For instance, if the consumer wishes to
16 change the shipping address, the consumer can enter a new shipping address. In some instances, the
17 consumer can have a plurality of possible entries into the same information block with a preferred
18 entry. In such a situation, the CIS software chooses the preferred information to enter into the
19 information block. The CIS software chooses the information via any selection process known in
20 the art, such as most popular, last used, first used, etc. However, the CIS software cannot enter
21 information into an information block if the merchant will not allow such an entry. For instance, a
22 merchant may only accept the ACME credit card and the consumer has not previously used an
23 ACME credit card to purchase an item using the present invention. In such a situation the CIS

1 software prompts the consumer to provide an acceptable form of payment. Information options are
2 available to the consumer in the form of directory of addresses, shippers, shipping methods, credit
3 cards, and other information options.

4 Referring to **Figure 2D**, if the consumer elects to purchase the item, then the information
5 regarding the transaction is delivered to the merchant's computer, information is written to the
6 merchant transaction log, and a message confirming the transaction is sent to the consumer's
7 computer **252**. The CIS software then determines if the consumer is registered **254**. If the consumer
8 is a registered consumer, then the information regarding the transaction is written to the consumer
9 transaction log **256**.

10 If the consumer is non-registered consumer, i.e., not known to the CIS software, then a browser
11 identifier (i.e., a cookie) is sent to consumer's computer **258** and CIS software determines if the
12 register flag was set **260**. If the register flag is set, then the information stored in the temporary data
13 structure pertaining to the consumer is transferred to the consumer data structure for subsequent uses,
14 the consumer is prompted for a passphrase, and the CIS software saves the transaction data to the
15 consumer transaction log **262**. If the register flag is not set, the transaction data remains in the
16 temporary data structure until it is discarded but is unavailable for future use. The transaction
17 process ends **264**.

18 Referring to **Figure 2E**, the process of a merchant using the merchant's form for gathering
19 purchasing information is illustrated. In the preferred embodiment, the merchant's web server
20 software performs several different functions including gathering purchasing information from a
21 consumer. However in an alternate embodiment, the gathering of purchasing information is
22 performed by software which interacts with the merchant's server software.

23 A merchant can use a merchant's form to gather purchasing information from a consumer if the

1 consumer is unknown to the CIS software, i.e., no matching cookie. The merchant uses the
2 merchant's form to gather the consumer information which is needed to complete the transaction.
3 Using at least one merchant's form, the merchant's web server software prompts the consumer for
4 the purchasing information 266. The purchasing information includes the consumer's name, address,
5 shipping address, and credit card number, however this list should not be construed as a limitation.
6 The consumer responds to the prompts and the consumer's responses are sent to the merchant 268.

7 In the preferred embodiment, the consumer has the option of indicating that the consumer is a
8 registered consumer. The merchant's web server software determines if the consumer claims to be
9 a registered consumer 270. If the consumer claims to be a registered consumer, the merchant's offer
10 is forwarded to the CIS, control is passed off to the CIS software and the CIS software gathers the
11 consumer's information as described earlier 272. If the consumer does not claim to be a registered
12 consumer, then the merchant's web server software acquires the consumer's data from the forms
13 274. In the preferred embodiment, the merchant's web server software determines whether the item
14 can be sold to the consumer. For instance, a consumer in one state may not be able to purchase a
15 firearm if the law governing the consumer or merchant does not permit such a transaction. In yet
16 another embodiment, the consumer response to one question can lead to another question which
17 requires another form. For instance, if the consumer requests overnight shipping, the CIS software
18 can prompt the consumer to select the overnight shipping service.

19 The merchant's web server software evaluates the information acquired from the forms to
20 determine if the information from the consumer is sufficient to complete the purchase transaction
21 276. If the information is not sufficient, the consumer is prompted for the information again 266.

22 In the preferred embodiment, the consumer is provided the option of registering with the CIS.
23 The data is evaluated to determine if the consumer elected to register with the CIS 278. If the

1 consumer does not elect to register with the CIS, then the merchant's web server software completes
2 the transaction **280**.

3 If the consumer elects to become a registered consumer, then the merchant's web server
4 software connects the consumer to the CIS **282**. In an alternate embodiment, the merchant's offer
5 is forwarded to the CIS. The connection can be established in any manner as known in the art. For
6 example, in one embodiment the merchant's web server software sends the proper links to connect
7 the consumer's browser with the CIS to allow the consumer to register with the CIS. In another
8 embodiment, the merchant's web server software sends an email message to the consumer wherein
9 the email message contains the proper links to the CIS to allow the consumer to register with the
10 CIS.

11 In the preferred embodiment, the merchant also sends the consumer's information to the
12 consumer which the consumer browser forwards to the CIS **284**. The CIS software then prompts the
13 consumer for the consumer's registration information **286**. In the preferred embodiment, the
14 registration information includes the consumer's identification number, email address, passphrase,
15 default payment parameters, default shipping address, and default shipping means, however this list
16 is not meant as a limitation. In alternate embodiments, the registration can include different
17 information.

18 The consumer responds by entering his or her registration information in response to the
19 prompted questions **288**. The CIS software checks the entered registration information to ensure
20 that the consumer's responses have been entered correctly **290**. In the preferred embodiment, the
21 consumer only has to enter information for the consumer's identification number, email address and
22 passphrase.

23 If any of the consumer's responses are not entered correctly, the CIS software prompts the

1 consumer to reenter the information again 286. If the consumer's responses are properly entered,
2 then the CIS software sends a cookie to the consumer's browser and stores the consumers responses
3 in the consumer data structure (CDS) 292. The registration process ends once the consumer's
4 responses are stored 294. In alternate embodiments, the CIS software sends the consumer a message
5 informing the consumer that the information was stored.

6 If the consumer's information is not forwarded to the CIS, then the consumer follows the pre-
7 registration process which is described below (see Figure 3).

8 In addition, if there is a problem with the form provided by the CIS, then the merchant's form
9 can be used as a default, thus providing greater assurance that a transaction will not be lost because
10 of a single point of failure.

11 Referring to **Figure 3**, the process of pre-registration is illustrated. Pre-registration is the
12 process of a consumer going through the registration process prior to purchasing a product or in the
13 case where the CIS is a repository for non-financial information, the process during which
14 information is provided by a user in advance of the need for that information. By preregistering, a
15 consumer is able to purchase a product without having to go through the registration process during
16 the purchasing process. The process starts with a consumer accessing the registration process on the
17 CIS 300. This can be done either by the CIS or a merchant sending an email message to the
18 consumer, wherein the email message contains the proper links to the consumer information server,
19 or by the consumer accessing the CIS directly.

20 In the preferred embodiment, the proper links are the Internet address for the registration process
21 on the CIS. If the email message is sent by a merchant, the message could also contain purchase
22 information for an item. For example, the message could contain the merchant's URL, a coupon for
23 use on the merchant's website, as well as additional purchasing information. The consumer clicks

1 on the Internet address for the CIS and the consumer's browser connects the consumer to the CIS
2 to allow the consumer to register with the CIS. If the merchant sent the email message containing
3 purchasing information, then this information is forwarded to the merchant's computer and
4 eventually is included in the merchant's offer.

5 In another embodiment, the email message from the merchant comprises a merchant's offer
6 and the proper links to the merchant's Web page where the sale item is described. In the preferred
7 embodiment, the link to the merchant's web page is executed when the email message is opened.
8 In an alternate embodiment, in order to execute the link to the merchant's web page, the consumer
9 must make the connection as known in the art. In another embodiment, the consumer enters either
10 the Internet address for the CIS or the Internet address for the registration process on the CIS. Once
11 the link to the merchant's web page is executed, the purchase and/or registration process proceeds
12 as previously described.

13 In another embodiment, the email message contains connection software which connects the
14 consumer to the CIS. In one embodiment, the connection software is part of the email message. In
15 another embodiment, the connection software is in a file attached to the email message. In another
16 embodiment, the consumer enters either the Internet address for the CIS or the Internet address for
17 the registration process on the CIS.

18 Once the consumer accesses the CIS, the CIS software prompts the consumer for registration
19 information 302. In the preferred embodiment, the registration information includes the consumer's
20 identification number, email address, passphrase, default payment parameters, default shipping
21 address, and default shipping means, however this list is not meant as a limitation. In alternate
22 embodiments, the registration information can include different information.

23 The consumer responds by entering his or her registration information in response to the

1 prompted questions **304**. The CIS software checks the entered registration information to ensure
2 that the consumer's responses have been entered correctly **306**. In the preferred embodiment, the
3 consumer only has to enter information for the consumer's identification number, email address and
4 passphrase.

5 If any of the consumer's responses are not entered correctly, the CIS software prompts the
6 consumer to reenter the information again **302**. If the consumer's responses are properly entered,
7 then the CIS software sends a cookie to the consumer's browser and stores the consumers responses
8 in the consumer data structure (CDS) **308**. The preregistration process ends once the consumer's
9 responses are stored **310**. In alternate embodiments, the CIS software sends the consumer a message
10 informing the consumer that the information was stored.

11 Referring to **Figure 4**, the process for amending a consumer's stored information is illustrated.
12 The process starts with a consumer accessing the CIS to amend his or her stored information **400**.
13 The CIS software responds by checking the consumer's browser for a browser identifier and for
14 determining if the browser identifier identifies a consumer that matches a data entry in a file in the
15 consumer data structure of the CIS **402**. In the preferred embodiment, the browser identifier is a
16 cookie. A browser identifier identifies the consumer browser on a specific consumer computer.

17 If the browser identifier does match, then the CIS software determines whether a single user or
18 multiple users have used the consumer's browser **404** by checking the consumer data structure. If
19 only a single user has used the consumer's browser, then the CIS software accesses and gathers the
20 consumer's information from the CDS and displays the information to the consumer **406**.

21 If the browser identifier does not match, there is no browser identifier, or if there are multiple
22 users of the consumer's browser, then the CIS software prompts the consumer for the consumer's
23 identification information **408**. The consumer's identification information includes the consumer's

1 identification number, email address and passphrase which are used to authenticate the consumer.
2 These entries were provided by the consumer during the registration process. In alternate
3 embodiments, the consumer is prompted for different information to identify the consumer.

4 The consumer's response is sent back to the CIS where the CIS software then determines if the
5 consumer is known to the CIS software **410**. A known or registered consumer is a consumer who
6 has previously registered with the CIS software and whose information matches information supplied
7 by the consumer during a prior registration.

8 If the CIS software determines that the information provided by the consumer is insufficient to
9 identify the consumer, then the CIS software prompts the consumer for the identification information
10 again **408**. The operator of the CIS can set the number of iterations that the consumer is prompted
11 for the consumer's identity.

12 If the consumer's response matches the information the consumer supplied during registration,
13 then the CIS software accesses and gathers the consumer's information which is stored in the
14 consumer data structure (CDS) and displays the information to the consumer **406**.

15 The consumer's browser displays the consumer's information to the consumer who can amend
16 the consumer's information using techniques known in the art **412**. The consumer is able to add,
17 delete or modify the consumer's information. Once the consumer completes his or her amendments,
18 the consumer selects to either save or cancel the amendments **414**.

19 If the consumer elects to cancel the amendments, the amendment process ends **418**. If the
20 consumer elects to save the amended consumer's information, then the CIS software stores the
21 amended consumer's information in the consumer data structure **416**. Once, the CIS software saves
22 the amended consumer's information, the amendment process ends **418**.

23 Although the above description is directed at purchasing an item over the Internet, the same

1 concept of distribution of information can be applied to other areas. In an alternative embodiment,
2 the consumer can be an accessee, the merchant can be an accessor, the consumer information server
3 can be an information server (IS), the consumer data structure can be an accessee data structure, the
4 merchant data structure can be an accessor data structure, the consumer transaction log can be an
5 accessee transaction log, and the merchant transaction log can be an accessor transaction log. The
6 accessee can authorize the software on the IS to provide information to an accessor. For instance,
7 the accessee can be a prospective applicant applying for admission into an educational institution
8 such as a college or a university. In this case, the prospective applicant stores an entire range of
9 information on the IS where the information is relevant to the initial screening for college
10 applications. For example, SAT scores, addresses for references, personal information, responses
11 to questions of desired major or subject area would be information stored on the IS. This
12 information could then be supplied to colleges whose Web sites could access the IS for the desired
13 information.

14 In yet another embodiment, the accessee can be a potential mortgage borrower, the accessor can
15 be a mortgage lender, and the information stored on the IS can be the accessee's financial
16 information. The accessee can authorize the software on the IS to provide the accessor the
17 information stored on the IS to allow the accessee to apply for a mortgage or to get a quote. Again,
18 the accessee would provide a wide range of data necessary for the mortgage application process. The
19 information can include the accessee's credit reports, bank statements, employment record, and other
20 credit related information.

21 In all of these different type of embodiments, the communications between the different parties
22 can be encrypted in any manner known in the art. In addition, some of the communications can be
23 accomplished in different manners. For example, in an alternate embodiment of the preferred

embodiment, communications between the CIS and the merchant computer can occur using a separate communication link. The communication link can be a direct link between the merchant and the CIS. Using this separate link can ensure against unauthorized transactions.

Although the present invention has been described in detail for purpose of illustration, it is understood that such detail is solely for that purpose, and variations can be made therein by those skilled in the art without departing from the scope of the invention. The preceding descriptions of the operations of the present invention are merely illustrative. In various embodiments of the disclosed inventions operational steps may be added, eliminated, performed in parallel or performed in a differing order. The apparatus and process of the present invention is defined by the following claims.